# LSU STEM CERTIFICATION PATHWAYS

Pre-Engineering ● Digital Design & Emergent Media ● Computing ● Biomedical Sciences

| LSU STEM Certification Pathway Courses | | | | |
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| | **Pre-Engineering** | **Digital Design & Emergent Media** | **Computing** | **Biomedical Sciences** |
| **Required Silver Courses** | 1. Intro to Engineering Design<br>2. Intro to Computational Thinking<br>3. Intro to Robotics<br>4. Engineering Design and Development **OR** Principles of Engineering | 1. Digital Storytelling<br>2. Intro to Computational Thinking<br>3. Coding for the Web<br>4. Programming for Digital Media | 1. Intro to Computational Thinking<br>2. Data Manipulation & Analysis **OR** Programming for STEM<br>3. Cybersecurity **OR** AP CS Principles<br>4. Survey of Computer Science **OR** Interactive Computing | 1. Intro to Biomedical Sciences<br>2. Intro to Computational Thinking<br>3. Comparative Anatomy & Physiology<br>4. Biomedical Capstone **OR** Data Manipulation & Analysis |
| **Elective Gold Courses** | ▪ Principles of Engineering<br>▪ Programming for STEM<br>▪ Engineering Design and Development<br>▪ Data Manipulation & Analysis<br>▪ Engineering Economy | ▪ Sound Design<br>▪ Basic/Advanced Film<br>▪ Film & Television<br>▪ Video Game Design<br>▪ Digital Image & Motion Graphics<br>▪ Interactive Digital Media Capstone<br>▪ Data Manipulation & Analysis<br>▪ Programming for STEM | ▪ Programming for STEM<br>▪ Data Manipulation & Analysis<br>▪ Cybersecurity<br>▪ Interactive Computing<br>▪ Robotics<br>▪ Coding for the Web<br>▪ Video Game Design<br>▪ Bioinformatics<br>▪ Programming Digital Media | ▪ Forensic Science<br>▪ Conservation Biology<br>▪ Data Manipulation & Analysis<br>▪ Bioinformatics<br>▪ Biomedical Capstone<br>▪ Genetics |
| **Other Elective Gold Courses** | ▪ AP Computer Science Principles<br>▪ AP Computer Science A<br>▪ AP Calculus (AB or BC)<br>▪ AP Physics (I, II, C)<br>▪ Biology (DE, II, or AP)<br>▪ Chemistry (DE, II, or AP)<br>▪ AP Environment Science<br>▪ Statistical Reasoning<br>▪ AP Statistics | ▪ AP Art 3D<br>▪ AP Computer Science Principles<br>▪ AP Computer Science A<br>▪ Statistical Reasoning<br>▪ AP Statistics<br>▪ Photography I & II<br>▪ AP Calculus (AB or BC) | ▪ AP Computer Science Principles<br>▪ AP Computer Science A<br>▪ Computer Science I<br>▪ AP Calculus (AB or BC)<br>▪ Statistical Reasoning<br>▪ AP Statistics<br>▪ AP Physics (I, II, C)<br>▪ Intro to Programming<br>▪ CIW Network Security<br>▪ Java Programming<br>▪ COMP TIA+ Networking Fundamentals<br>▪ COMP TIA+ Fund. Comp. Inst. & Configuration<br>▪ COMP TIA+ Progr. PL/SQL<br>▪ Java Programming<br>▪ Robotics Beginner<br>▪ Fund. HTML, CSS & Javascript<br>▪ Comp. Systems/Network I<br>▪ Comp. Serv. Techn. (I, II) | ▪ Biology (DE, II, AP)<br>▪ Microbiology-General Biology<br>▪ Chemistry (DE, II, AP)<br>▪ AP Environmental Science<br>▪ Statistical Reasoning<br>▪ AP Statistics<br>▪ Nurse Assistant<br>▪ Intro Health Occupations<br>▪ Medical Terminology<br>▪ AP Psychology<br>▪ Anatomy & Physiology<br>▪ First Responder/EMR<br>▪ Emerg. Med. Technician<br>▪ Workplace Safety |

Cells highlighted in **blue** represent LSU developed core pathway courses; **white** cells represent additional STEM electives. The order of courses can be rearranged and other LSU approved electives can be substituted as needed.

**For further information, please contact Dr. Frank Neubrander at fneubr1@lsu.edu or 225-772-7252 (cell, text)**